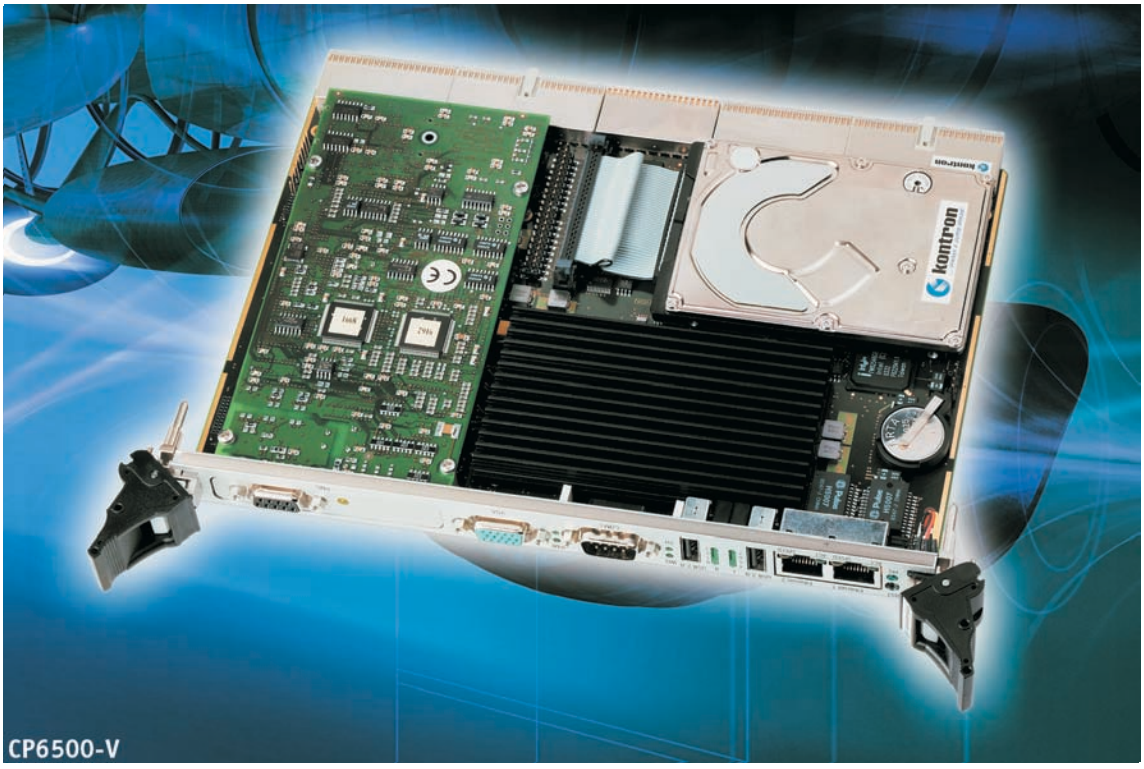
CP6500-V

Intel® Celeron®
PICMG 2.16 Value Line CPU



CompactPCI

- **Minimum power consumption**
  Ultra low voltage processor with max. 7W
- **Industry tailored**
  Compact all-in-one Industrial PC
- **Optimized cost-value ratio**
  Designed for price sensitive applications

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Great Performance. Exceptional Value

Just pay for what you need ...

Kontron Modular Computers GmbH introduces the CP6500-V, a new Value Line CompactPCI board in 6U height. It comes with a ULV 400 MHz or LV 1 GHz Intel® Celeron® processor and is designed for price-sensitive applications.

The CP6500-V CompactPCI system controller board combines the capabilities of an all-in-one industrial PC with the advantages of a robust and low powered 6U CompactPCI design.

Minimum power consumption

The CP6500-V incorporates either the ULV (ultra low voltage) 400 MHz Celeron or the more performance oriented LV (low voltage) Celeron 1 GHz, both providing excellent power dissipation figures.
The 400MHz version even allows operation without any additional cooling provision in the system.

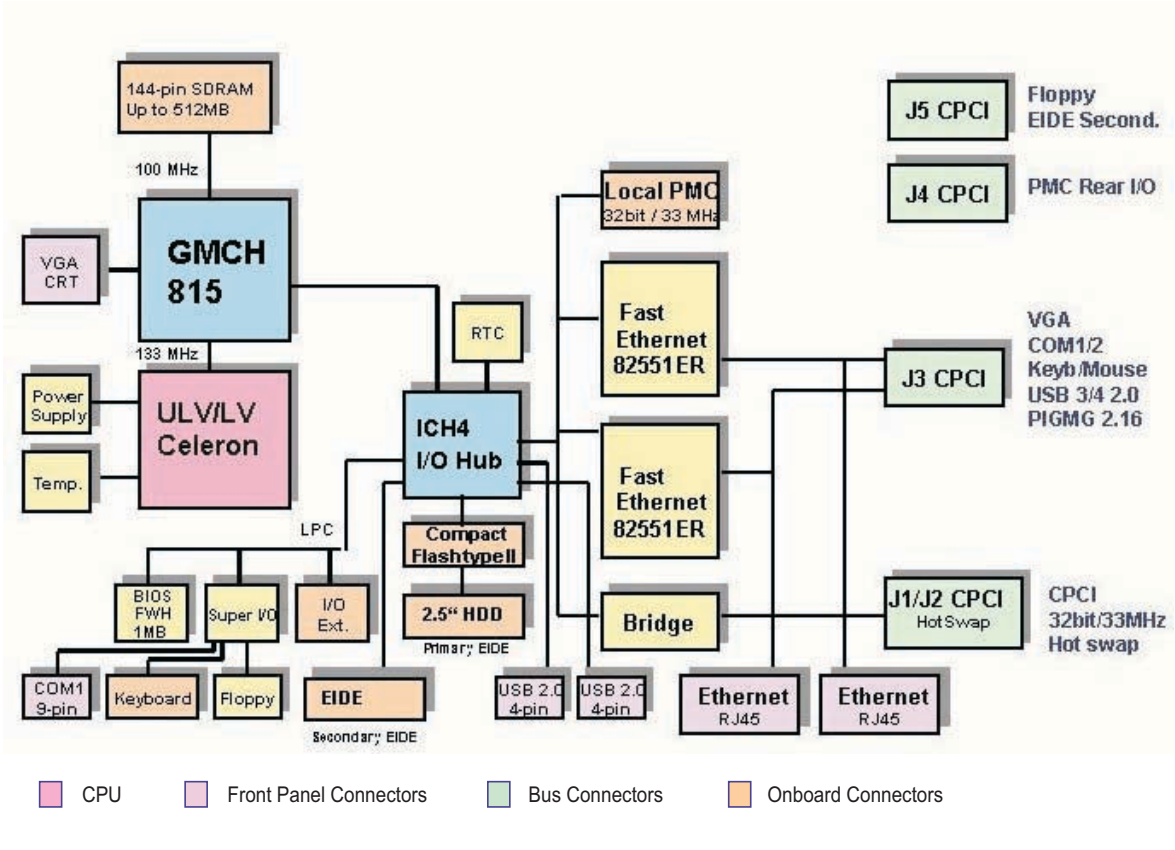
All-in-one industrial PC

The 4HP single slot, space saving board comes with all necessary industry-required interfaces, like two serial ports, plus the usual keyboard, floppy drive and graphics connections (VGA CRT with a resolution of 1600 x 1200 pixels), including four USB 2.0 ports. Two Fast Ethernet interfaces, which are either accessible via the front panel or, alternatively, realized through the backplane in accordance with PICMG 2.16, enables wireless switched fabrics.
Two EIDE ports facilitate the connection of mass-storage devices; one of these interfaces is designed for an on-board HDD. In addition, the CPU board includes a CompactFlash socket.
Via a 32 bit/33 MHz PMC slot with rear I/O support, the CP6500-V can be further expanded through mezzanine cards as required. Additional I/O can be connected through an LPC interface, or via rear I/O or CompactPCI extension components.
The CP6500-V works in the system slot as well as in the peripheral slot. In the former, it will communicate with all peripheral boards via CompactPCI or Ethernet over backplane in accordance with PICMG 2.16; in the latter, the communication channel is Ethernet over backplane.

Optimized cost-value ratio

The CP6500-V is tailored for cost-sensitive applications without compromising on the processor performance. The optimized cost-value ratio is achieved by graphic support coming along with the chipset, memory as a pure inexpensive 144-pin SODIMM SDRAM socket (scalable at three levels, with 128 MB, 256 MB, or 512 MB) and taking advantage of selecting value oriented components.

Software support is available for Windows XP, XP Embedded and 2000, as well as Linux and VxWorks.



CPU Front Panel Connectors Bus Connectors Onboard Connectors

Specification
Exceptional Cost-Value Ratio

System Processor
Low voltage Celeron®, Micro-FCBGA 478, 256KByte L2 on-die cache:
- 400MHz ULV Celeron ultra low power dissipation
- 1GHz LV Celeron high performance

All processor versions with passive heat sink.
Depending on the processor version forced air cooling at a specific flow rate might be required in the chassis.

Memory
100 MHz memory speed, Intel® 82815 GMCH:
- Up to 512 MB SDRAM memory without ECC on one 144-pin SODIMM socket, smallest memory size 128 MB

Onboard 2.5" HDD mounting
CompactFlash socket type II
1MB Firmware Hub for BIOS
8KByte EEPROM for CMOS data storing (for no-battery operation)

Connectivity
Ethernet:	2x 10/100Base-TX Ethernet controller based on the Intel 82551ER Ethernet 32-bit PCI bus controller. The two ports can be configured as front or rear I/O (PICMG 2.16).
VGA:	Intel® 82815 GMCH internal VGA controller providing 2D/3D graphics accelerator, 1280x1024x16/75Hz or 1200x1600x256/60Hz analog output.
USB:	4x USB2.0 channels up to 480Mbit/s from ICH4, 2x as front I/O, 2x as rear I/O
PS/2:	PS/2 for keyboard onboard or rear I/O and mouse legacy support on rear I/O
COM:	2x serial ports - COM1/2 - default RS232, optionally RS485/RS422 COM1 on front I/O or both on rear I/O
IDE:	Two EIDE interfaces, UltraDMA/100. Primary port: UltraDMA/100 routed to CompactFlash socket and 44-pin, 2mm connector for onboard EIDE 2.5" HDD mounting option Secondary port: UltraDMA/100 40-pin, 2.54mm connector onboard and optional on rear I/O

Front Panel Functions
COM1:	9-pin D-Sub (RS232, RS422, RS485)
VGA:	15-pin D-Sub VGA connector
Ethernet:	2x RJ-45
USB:	2x 4-pin connectors
PMC:	opening for PMC front panel
LEDs:	2x LAN activity (yellow) and speed (green) 1x blue LED for hot swap, 1x watchdog, 1x thermal control 8-LED-field for BIOS POST code or general purpose
Reset:	reset button, guarded

Onboard Interfaces
- Two IDE connectors supporting Ultra DMA, one 40pin/2.54mm, one 44 pin/2mm for onboard 2.5 HDD or Flash module
- CompactFlash type II socket
- 22-pin connector with all LPC signals
- PS/2 5-pinrow keyboard connector
- 1x144-pin SODIMM connectors
- 3x 64-pin PMC interface

I/O Table Summary
Description	Front I/O	Rear I/O	Onboard Connector	Total
Video	1	1	-	1
USB	2	2	-	4
Serial	1	2	-	2
PS/2 Mouse	-	1	-	1
PS/2 Keyboard	-	1	1	1
Ethernet	2	2	-	2
ATA100	-	1	2	2
CompactFlash	-	-	1	1
PMC	1	via J4	Pn1-Pn3	1
Floppy	-	1	-	1

CompactPCI Bus Interface
PICMG 2.0 Rev. 3.0 compatible, 32 bit/33 MHz.
5V default signaling (3.3V on request available), REQ/GNT for 7 slots
Operating in system slot as system master and in peripheral slot in PCI passive mode (no communication to CompactPCI bus).

PMC slot
One 32-bit / 33MHz PMC slot Pn1-Pn3, rear I/O Pn3 to J4.
5 V and 3.3 V PCI voltage (default configuration 5V).

Supervisory Functions, Clock/Calendar
Watchdog, software configurable, 125 msec to 256 sec. in 12 steps, generates IRQ, NMI or hardware reset, two stage configuration for NMI and Reset.
Hardware monitor Winbond W83627 for thermal control, fan speed and all onboard voltages.
ICH4 internal RTC (MC146818 compatible), RTC and 256 Byte CMOS RAM with backup, battery replaceable.

Rear I/O via J3/(J4)/J5
J3: PICMG 2.16, VGA, COM1/2, keyboard, mouse, USB3/4
J4: PMC rear I/O
J5: IDE (secondary), Floppy

Hot Swap
Support for all signals to allow peripheral boards to be hot swapped. The individual clocks for each slot and access to the backplane ENUM# signal comply with the PICMG 2.1 Hot-Swap specification.

Compliancy
CompactPCI Core Specification PICMG 2.0 Rev. 3.0
CompactPCI Hot Swap Specification PICMG 2.1 R2.0
CompactPCI Packet Switching Backplane PICMG 2.16 R1.0
Designed to meet or exceed:
- Safety: UL 1950, UL 94, CSA 22.2 No 950, EN 60950, IEC 950
- EMI/EMC: EN 55022 / EN 55024, EN 50081-1 / EN 6100-6-2

General
Dimensions: 100mm x 160mm
Weight: 320g / 4HP
MTBF: tbd

Software Support
AMI BIOS with POST codes, setup console redirection to serial port (VT100 mode) with CMOS setup access, BIOS parameters saved in EEPROM, diskless, keyboardless, videoless operation
LAN boot support.
Board identification number accessible via EEPROM.
Ethernet channels switchable via software.
Support for Windows® 2000, XP, XP Embedded, Linux®, VxWorks® (other OSs may be possible, please contact us for information).

Power Consumption
+5V/4W, +3.3V/6W, **max. 12W at 400MHz**
+5V/8W, +3.3V/6W, max. 17W at 1.0Hz
+12V / -12V not used

Environmental
Operating temp.:	0 °C to +60 °C standard
Storage temp.:	-55 °C to +85 °C
Climatic Humidity:	non condensing 93% at 40 C (acc. to IEC 60068-2-78)
Altitude:	50,000 ft. (15,240 m)

Ordering Information

Product	Description	Order No.
CP6500-V	ULV Celeron 400MHz, 256KByte L2 cache, 144-pin SODIMM socket, VGA, 2x FastEthernet, 2x USB, 1x COM	28652
CP6500-V 1)	LV Celeron 1.0GHz, 256KByte L2 cache, 144-pin SODIMM socket, VGA, 2x FastEthernet, 2x USB, 1x COM	28653
	Memory Module	
DMSO-128	SODIMM 128MByte SDRAM 144-pin PC133	24050
DMSO-256	SODIMM 256MByte SDRAM 144-pin PC133	23362
DMSO-512	SODIMM 512MByte SDRAM 144-pin PC133	23810
	Rear IO-module	
CP-CTM80-2	4HP for SCSI (together with PMC261 on CP6500-V) and Ethernet on rear panel	25127
CP-CTM80-2	4HP for SCSI (together with PMC261 on CP6500-V) and PICMG 2.16	27622
CP-CTM80-2	4HP for PIM support and Ethernet on rear panel	29044
CP-CTM80-2	4HP for PIM support and PICMG 2.16	27776
	Services	
CP6-RIO	Assembly of connectors J3/J4/J5 and rear IO configuration	27827
CP6-RIO-NOJ4	Assembly of connectors J3/J5 (**no J4**) and rear IO configuration	27828
	Accessories	
CP6500-V-MK2.5 2)	Mounting kit for 2.5" IDE-HDD onboard, mounting within 4HP	28948
CP-HDD-2.5-IDE 2)	Notebook-style 2.5" Hard disk in various sizes available for onboard mounting	various
CFxxx	CompactFlash in various memory sizes available	various
	Software	
KIT-CP6500-V 3)	Windows Drivers, setup utilities, user's manual in PDF format on CD-ROM	28938
LIN-BSP-CP6500-V 3)	Linux Board Support Package for use with SuSE or RedHat distribution	28940
VXW-BSP-CP6500-V	VxWorks Board Support Package for use with Tornado on CD-ROM	28941
	1) Not dedicated for longterm projects	
	2) HDD must be ordered separately	
	3) Free of charge downloadable from the Internet	
	please contact your local sales representative for other configuration options	

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